

Ryton® R-7-220BL

Syensqo - Polyphenylene Sulfide

General Information

Product Description

Ryton® R-7-220BL glass fiber and mineral filled polyphenylene sulfide compound provides enhanced mechanical strength after constant or repeated exposure to high temperature water.

General

Filler / Reinforcement	• Glass Fiber\Mineral
Features	• Good Strength
Uses	• Automotive Applications
RoHS Compliance	• RoHS Compliant
Appearance	• Black
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PPS-(GF+MD)65

Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.95		ASTM D792
Molding Shrinkage - Flow (0.126 in)	2.0E-3	in/in	
Molding Shrinkage - Across Flow (0.126 in)	4.0E-3	in/in	
Water Absorption (24 hr, 73°F)	0.020	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3.07E+6	psi	ISO 527
Tensile Strength	22000	psi	ASTM D638
Tensile Stress	22500	psi	ISO 527-2
Tensile Elongation (Break)	1.0	%	ASTM D638
Tensile Strain (Break)	1.0	%	ISO 527-2
Flexural Modulus	2.80E+6	psi	ASTM D790
Flexural Modulus	2.76E+6	psi	ISO 178
Flexural Strength	34000	psi	ASTM D790
Flexural Stress	34800	psi	ISO 178
Compressive Strength	42800	psi	ASTM D695
Poisson's Ratio	0.35		ISO 527
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (0.125 in)	1.3	ft·lb/in	ASTM D256
Notched Izod Impact Strength	3.8	ft·lb/in ²	ISO 180/A
Unnotched Izod Impact (0.125 in)	5.0	ft·lb/in	ASTM D4812
Unnotched Izod Impact Strength	9.5	ft·lb/in ²	ISO 180
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	99		
R-Scale	116		

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 264 psi, Unannealed	509	°F	ASTM D648
CLTE - Flow -58 to 122°F 212 to 392°F	8.3E-6 5.6E-6	in/in/°F in/in/°F	ASTM E831
CLTE - Transverse -58 to 122°F 212 to 392°F	1.7E-5 3.9E-5	in/in/°F in/in/°F	ASTM E831
Thermal Conductivity	3.5	Btu·in/hr/ft ² /°F	
UL Temperature Rating	428 to 464	°F	UL 746B
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	ASTM D257
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257
Dielectric Strength	450	V/mil	ASTM D149
Dielectric Constant 77°F, 1 kHz 77°F, 1 MHz	5.00 4.90		ASTM D150
Dissipation Factor 77°F, 1 kHz 77°F, 1 MHz	0.020 0.010		ASTM D150
Arc Resistance	185	sec	ASTM D495
Comparative Tracking Index (CTI)	275	V	IEC 60112
Comparative Tracking Index (CTI)	PLC 3		UL 746A
Insulation Resistance ² (194°F)	1.0E+11	ohms	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	V-0 5VA		UL 94
Oxygen Index	62	%	ASTM D2863
Additional Information	Nominal Value	Unit	
Hydrolytic Stability ³ Tensile Strength Retained Weight Gain	> 75 < 1.0	% %	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	275 to 302	°F
Drying Time	2.0 to 4.0	hr
Rear Temperature	563 to 599	°F
Middle Temperature	581 to 617	°F
Front Temperature	599 to 653	°F
Nozzle Temperature	581 to 617	°F
Processing (Melt) Temp	608 to 626	°F
Mold Temperature	275 to 302	°F

Notes

¹ Typical properties: these are not to be construed as specifications.

² 95%RH, 48 hr

³ Test specimens aged 1000 hours in water at 140°C (284°F)